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INFORMAL TEACHER-PUPIL INTERACTION AND LEARNING
OF ART CONCEPTS AT THE THIRD GRADE LEVEL

BY



PETER SHOSTAK

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF EDUCATION

DEPARTMENT OF ELEMENTARY EDUCATION

EDMONTON, ALBERTA

SPRING, 1970

UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled Informal Teacher-Pupil Interaction and Learning of Art Concepts at the Third Grade Level, submitted by Peter Shostak, in partial fulfilment of the requirements for the degree of Master of Education.

ABSTRACT

The major purpose of this study was to determine what effects different amounts of informal teacher-pupil interaction had upon the learning of the art concepts of line, texture, and center of interest by third grade students.

Three intact third grade classes at the A.H. Dakin School in Edson, Alberta were randomly assigned to the following experimental treatments: Group A, where a minimum number of informal teacher-pupil contacts were present; Group B, where a moderate number of informal teacher-pupil contacts were present; and Group C, where a maximum number of informal teacher-pupil contacts were present. Informal teacher-pupil interaction included all individual attention given to a single pupil during the time the teacher and the class of students were together. The experiment and the pre- and post-testing was conducted over a period of eight consecutive Fridays. Following the pre-test, two art lessons on line, two on texture, and two on center of interest were taught by the same teacher. Informal teacher-pupil contacts were provided during the work session of each art lesson. A post-test, similar in format to the pre-test, was conducted after the treatment of six weeks. Four judges, using criteria directly related to the objectives of the six art lessons, evaluated the pre- and post-test pictures. The differences in mean gain in scores between pre- and post-test art work was used to indicate the amount of learning that took place. Analysis of variance statistics were computed to determine whether differences between mean gains in scores were significant.

The major findings of the study were:

1. Different amounts of informal teacher-pupil interaction had a significantly (.01) different effect on the learning of art concepts by the third grade students. Students in treatment Group B achieved the highest mean score. Students in Group C achieved the second highest mean score, whereas the lowest mean score was obtained by the Group A students.
2. Different amounts of informal teacher-pupil interaction had significantly (.01) different effects upon the boys' and girls' learning of art concepts. In all three treatment groups the girls achieved higher scores than did the boys.
3. Different amounts of informal teacher-pupil interaction did not have significantly different effects upon the learning of art concepts by the low, average, and high I.Q. children.
4. Regardless of the treatment, students achieved greatest mean gains in scores on the concept of texture, second on the concept of line, and least on center of interest.

From these findings the investigator concluded that through informal teacher-pupil contacts, it is possible to provide instruction that meets some of the learner's individual needs, but it is quality of these contacts which remains to be studied in future research.

ACKNOWLEDGEMENTS

The bound thesis is seldom the result of one person's efforts. The writer wishes to thank Dr. B. Schwartz for his assistance and support. Sincere appreciation is also expressed to Professors Grayson and Pugh. Assistance from Professor Muir was also greatly appreciated.

Thanks are extended to Mr. H. Wortman, faculty, and the 1968-69 third grade students of the A. H. Dakin School who through their cooperation made it possible to conduct this experiment.

The writer is extremely grateful to his wife, Geraldine, who willingly provided help during every phase of the experiment.

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CHAPTER I

NATURE OF THE PROBLEM

Education is the process of developing and changing the behavior of the individual. It is the process which equips the individual to meet and cope with the environment in which he lives. The behavioral changes are synonymous with the aims and goals of the educational system. The aims and goals for education come into existence, evolve, and change when the members of the society in which the educational system exists express their views and ideas concerning education and its role in their society. A summation and synthesis of society's expectations produce an image of an ideal individual, an individual who will exhibit all of the deemed necessary behavior capabilities. A large majority of the individuals in our society see the ability to read, write, and count as being of great importance and essential in helping one survive in our society. Unlike the educational system of our forefathers, being able to read, write, and count are only some of the main objectives of the present school system. Being able to live in and understand a world in which nations are becoming more and more dependent upon each other, and also being able to live in a democratic society are equally important objectives.

When a student enters school it is only after taking part in many learning experiences and after a great deal of time that he becomes capable of reading, writing, or exhibiting any of the behavioral patterns that are expected of him. Being able to read involves a series of inter-related behavior changes. The child must first learn to pay attention, to listen, to differentiate between shapes and figures plus exhibit a

large variety of other behavioral patterns which will eventually enable him to read and comprehend. In school the teacher is faced with the task of helping the educational system meet its objectives. Day by day the teacher leads the child one small step at a time toward the established goal. Each small step involves some small change in behavior.

Educators can evaluate their efforts and their degree of success or lack of it by observing the overt behavior of the individuals being educated. Thus, one could say that the major goal of education is to change the behavior of an individual and hopefully change it so that it will approximate the behavior of some ideal standard.

To achieve its goal, education must affect and change the behavior of all those being taught. Education must be for all, not just for the average student, meaning that in a typical classroom, containing twenty-five or thirty students, all must be affected by learning activities.

Bloom (1968) in his article Learning for Mastery stated that:

The basic problem is to determine how the largest proportion of the age group can learn effectively those skills and subject matter regarded as essential for their own development in a complex society (p. 2).

In the same article Bloom goes on to say that:

Our basic task in education is to find strategies which will take individual differences into consideration but which will do so in such a way as to promote the fullest development of the individual (p. 3).

How can educators accomplish their goal short of providing one teacher for every student? How can they gear their instruction and set up learning experiences so that all may benefit?

Answers to this question are not easy to obtain. Many individuals have given of their time and energy in attempting to arrive at solutions.

As a result of their efforts many possible solutions have been provided. Of these, team-teaching, programmed instruction, individualized teaching kits, open area schools, and computer assisted instruction are but a few. Many of these educational innovations are slowly making their way into our educational system. Some innovations or possible solutions will not affect many of the students in our schools because of the cost of implementing them. One example is the use of the computer in aiding instruction. The initial cost of the hardware is preventing a large percentage of the schools from taking advantage of this aid. In spite of all the efforts that have gone and are going into the meeting of education's main goal, educators still must spend more time trying to come up with means and ways of achieving the goal of making education meaningful for all.

Of the individuals involved in the educational system the teacher is one who is actively involved in trying to change the behavior of his students. By planning, organizing, and having students take part in these various learning episodes, the teacher attempts to attain the goals of the educational system.

The art of teaching or setting up learning situations can be a very complicated act and one that becomes more and more complex as an attempt is made to meet the needs of all the students. In a class of thirty students one is confronted with students who learn at different rates, function cognitively at different levels, require differing types and amounts of motivation, have different interests, require differing amounts of attention and reinforcement, and students who need additional help.

Smith (1966, p. 47), in defining teaching, was of the opinion that a definition of teaching can be merely an explanation of what teachers actually do rather than what we think they ought to do. In analyzing records of the teacher's performance, Smith concluded that teachers generally do two sorts of things: (a) They show how to do something, and (b) they say or tell something. Amidon and Hough (1967) have reported that almost seventy per cent of classroom instructional time is spent in talk by either the teacher or the students.

The showing and telling of how to do something takes place on two levels, namely, the formal and the informal. The formal situation is one where the teacher, by standing in front of the whole class or in front of a large group of children, hopefully attempts to show and/or tell something to the entire group. The manner of showing and telling is usually varied to make what is said discernible by the average student. The general class atmosphere and needs of the students determine the quality and condition of the formal discourse. The informal level of discourse, as defined by this researcher, is between the teacher and a pupil. A one-to-one ratio exists where the teacher hopefully can provide individualized showing and telling. At this stage the showing and telling is, or should be, greatly influenced by the student being dealt with.

At a conference in 1965 Crutchfield gave a paper in which he stated:

The aims of raising academic standards, of maximizing the potential of gifted students, of helping the handicapped and underprivileged, and of stimulating the underachiever, all point toward the need for improved methods of instruction in which the individual becomes the focus of attention. . . . it is increasingly recognized that to make the instructional process optimal, account must be taken of the specific background, capabilities, and distinctive cognitive style of the

given individual. In order that any bit of instructional information--no matter how small--be properly understood and mastered by the individual, he must be enabled to assimilate it relevantly to his own cognitive structure, to transform it according to his own preferred and distinctive style, in such a way as to 'make it his own'. This required individualized instruction that is geared to the distinctive attributes, needs, and cognitions of the particular person. This does not mean, of course, that individuals must be taught singly, with different materials designed for each alone. It does require that the common instructional methods and materials have such scope and flexibility as reasonably to fit the diverse requirement of the different individual (pp. 13, 14).

Showing and telling at the formal and informal levels can take into account some of the individual differences and needs of the student and in this way make education more meaningful for all students involved.

Informal Teacher - Pupil Interaction in the Classroom

An examination, by the researcher, of the classroom situation indicated that different degrees or amounts of informal teacher-pupil interaction take place in the classroom. At one end of the continuum is the class where there is very little informal interaction between the teacher and the individual student and at the other end is the class where a large number of informal contacts are evident between the teacher and student. In many of the classrooms teachers provide individual attention as time permits.

Informal interaction seems to be and can be the result of, or related to several factors or situations. In many cases an informal contact between a student and the teacher is a result of the student having a problem with his work. This problem may be one of not understanding what is to be done, or it may be a technical problem where the student may not know how to use a piece of equipment, or it may be a problem of

motivation or of getting started. In some cases, informal interaction is centered around the student when he receives praise or blame, encouragement or feedback from the teacher. As one can see, informal teacher-pupil contacts or lack of them can be an important factor in the educational process.

As a teacher of art, the researcher cannot help but wonder what effects different degrees of informal interaction will have upon the students' ability to grasp and understand concepts. What effect will it have upon the students' ability to use newly acquired knowledge in their work? Will informal teacher-pupil contacts help meet some of the individual needs of the student?

Purpose of Study

The specific purpose of this study is to determine what effects different amounts of informal teacher-pupil interaction have on third grade students' ability to learn concepts in art. The students' understanding of the concepts of line, texture and center of interest will be determined by an evaluation of the compositions produced by each student.

Definition of Terms

For the purposes of this research the following terms have been defined and employed accordingly:

Formal teacher-pupil interaction will include questions or statements when the teacher shows, explains, or asks a question of the entire

class. The formal portion of a lesson or learning episode would be the time when the teacher introduces and explains a new fact, principle or concept to the class.

Informal teacher-pupil interaction will include questions or statements initiated by the teacher which: (1) will provoke the learner to see his own solutions by reflecting on what was presented and by reflecting on what he is doing; (2) will accept the feelings and opinions of the student; (3) praise or encourage what the student is doing; (4) accept and build upon ideas suggested by the student; (5) ask questions about newly presented content or procedure with the intent that the student answer. Categories of statements two through five were taken from Flanders. Ned Flanders (1965) classified these categories as all being a form of indirect teacher-influence.

Informal teacher-pupil interaction would include all individual attention given to a single pupil during the time the teacher and the class of students are together. Usually these informal contacts will take place when the students are working on their own and hopefully are using and applying in their visual images what was presented in the formal part of the lesson.

Degree of understanding of art concepts by a student will be shown when he incorporates the concept into his art work. If a student understands the concept of texture, he will exhibit this by using actual texture; that is, by building up a surface which is actually rough, smooth, or matte or he will use color and line in such a way as to imply or give an illusion of texture. The difference between implied and actual texture

is that the latter can be felt and the former is an illusion of texture which can be seen but not felt. When a student uses implied texture, an area in his composition representing a rough surface such as a tree trunk is actually smooth when one touches it but in looking at this area the surface produces the illusion of roughness. A partial understanding of the concept of texture will be shown when the student uses or implies texture in some portions of his composition. If a student does not understand the concept of texture, he will not use or imply texture in his composition.

Statement of Null-Hypotheses

Null-Hypothesis 1. There are no significant differences in mean gains in pre- and post-test scores of art works among the three experimental groups of third grade students receiving varying amounts of informal teacher-pupil interaction.

Sub-Hypothesis of 1. There are no significant differences in mean gains among the three experimental groups on scores obtained from art works judged on each of the following art learning concepts:

- a) line
- b) texture
- c) center of interest

Null-Hypothesis 2. There are no significant differences in mean gains in pre- and post-test scores of art works among the three experimental groups of third grade students receiving varying amounts of informal

teacher-pupil interaction in which the variable of sex (boy/girl) has been controlled.

Sub-Hypothesis of 2. Among the three experimental groups in which the variable of sex (boy/girl) has been controlled, there are no significant differences in mean gains on scores obtained from art works judged on each of the following art learning concepts:

- a) line
- b) texture
- c) center of interest

Null-Hypothesis 3. There are no significant differences in mean gains in pre- and post-test scores of art works among the three experimental groups of third grade students receiving varying amounts of informal teacher-pupil interaction in which the variable of I.Q. (low, average, high) has been controlled.

Sub-Hypothesis of 3. Among the three experimental groups in which the variable of I.Q. (low, average, high) has been controlled, there are no significant differences in mean gains on scores obtained from art works judged on each of the following art learning concepts;

- a) line
- b) texture
- c) center of interest

Limitations of the Study

This study is primarily concerned with determining what effects different amounts of informal teacher-pupil interaction will have upon

the learning of art concepts by third grade students. No attempt is made to determine what effects different amounts of informal teacher-pupil interaction will have upon the students' attitude toward art. Another limitation is the length of the study. Totally this experiment is to be conducted over an eight week period; thus, the results from this study may not be indicative of the long range effects of the treatment. Also, this researcher will not test to determine how long the effects of the study will last.

Justification for Choice of Student Subjects, Art Learning Objectives and Teaching Methods Used in the Study

Student Subjects

A choice had to be made concerning the grade level of the student subjects that would be best suited for the study. Of the six elementary grades it was felt that third grade children would be best suited. Using Lowenfeld's (1961) developmental stages and the age breakdown given in his book one could say that the average third grader is either at the end of the schematic stage of development or just entering the dawning realism stage. Lowenfeld prefers to call the dawning realism stage the gang age. During this period, the child's art products show the use of details to characterize the self and his environment. Because the child has gained a feeling for detail and a concern for realism, his drawings are no longer spontaneous. This concern for realism and his artistic inability to satisfy or attain the goals he has set for himself in art result in the student questioning his own abilities. No longer is exaggeration, neglect, or omission of parts used as a means of expressing or

indicating what parts of a composition are more important. The abandonment of former techniques, solutions, and ways of working such as the use of more than one viewpoint, use of X-ray views, exaggeration of parts, and combination of several events into one composition, call for the child to search for new, realistic ways of solving the various visual problems that he is faced with. It is at this stage of development that he sees a need for learning how to make better pictures. Because of this, it was felt that the third grade child would benefit and in turn be a subject suitable for this study.

Art Learning Objective of Lessons

The lessons were centered around topics of concepts which could be introduced to the third grade child. During the symbolic stage the child could show importance and centre of interest in his pictures merely by making the most important objects or the most important part of an object the largest in the composition. When the child enters the dawning realism stage, he is concerned with realism and correct proportions; thus, he rules out the use of size and exaggeration as a way of indicating importance. From the researchers' readings and observation it became evident that the child now feels a strong need to learn how to show importance but at the same time to be realistic in his representations. A lesson or several lessons concerning the center of interest in art and how it can be achieved becomes a series of learning experiences that are very meaningful for the child and are experiences that help him to meet his artistic needs. The lessons chosen for this

study were ones which attempted to help the child to become more aware of how to improve his communication through the visual media.

Teaching Methods

The number and quality of informal teacher-pupil contacts seem to vary so much from classroom to classroom and from one period to the next. Because of finances we have to accept the fact that one teacher will in most cases be faced with many individuals. To make what goes on in the class meaningful for all involved we must adapt the teaching process to meet this end. The researcher feels that perhaps informal teacher-pupil contacts can be one way of meeting and adapting the teaching to suit the various needs and abilities of the members of the class. The number, kind, and quality of teacher-pupil contacts is one aspect of the teaching process that can be directly controlled by the teacher. Because of this, the researcher set out to find out what effects, if any, different amounts of informal teacher-pupil contacts will have upon the third grade child's ability to learn art concepts.

CHAPTER II

REVIEW OF RELATED LITERATURE AND RESEARCH

For this study the researcher reviewed literature related to social interaction in the classroom. Specifically, a review was conducted of literature dealing with the effect of teacher-pupil contacts upon the learning situation, nature and type of contacts, teacher's language usage in the learning situation, and classroom questioning. It was necessary to review literature in these areas in order that the information provided by past researchers could be used in setting up this experimental study and aid in the interpretation of obtained data. It was necessary to obtain any research data dealing with quality and quantity of the teacher-pupil contacts and their effect upon the learning situation. Is one type of contact superior to another type? What questions promote learning?

Literature about these and other related questions had to be reviewed before an attempt was made to test experimentally the effects of varying amounts of informal teacher-pupil contact upon the learning of art concepts by third grade students.

Nature, Quality, and Quantity of Teacher-pupil Contacts and Their Effects Upon the Learning Situation

The chief function of the school is to help develop the potential of each individual. With this function in mind, many educators and researchers are attempting to determine how this goal can most effectively be attained. These educators are of the consensus that the curriculum,

methods, materials, buildings, administrative organization, and finances are important but that they are the instruments whose effectiveness depends upon the human beings who work together to provide education for children. The effectiveness of the school hinges upon what goes on in the classroom.

The school, in trying to meet its goal, needs to understand and foster the emotional development and growth of the children. Most individuals have a strong need to achieve success in what they are doing and along with success also comes the need to receive approval. Individuals have a need to give and receive affection and to maintain self-respect and a feeling of well-being toward themselves. In the classroom these needs can be satisfied through contacts with one another.

Moustakas (1956) stated that:

. . .many teachers realize that the child's entire self comes to school and is involved in every activity and experience. The task of finding a way of reaching the vast potential of each child, of responding warmly, humanly, and tenderly, of being sensitive, is almost insurmountable. Yet there are teachers who, in spite of all obstacles, manage to live with the child emotionally as he explores his total self and attempts to discover his own reality (p. 1, 2).

Moustakas feels that informal interaction is essential for the development of every individual. In dealing with individual differences, Bloom (1968) in his article Learning for Mastery stated that:

. . .individual students may need very different types and qualities of instruction to achieve mastery. That is, the same content and objectives of instruction may be learned by different students as the result of very different types of methods of instruction (p. 4).

Boswell (1953) found that a direct relationship existed between a student's intellectual achievement in class and his relationships with his peers. Students who were accepted by the peers exhibited a high level of intellectual achievement. In her study she also demonstrated that achievement affects social acceptability and vice versa. Inter-pupil relationships are of great significance to the pupils' social development as well as his achievement.

Jenkins (1961) feels that communication among individuals is a must to the teaching process as she states that children need many opportunities to discuss projects and problems, and to learn to help each other. Jenkins brings out the fact that many classrooms forbid interaction except on the formal level. Participation in informal classroom interaction increases the quality of their thinking and it also increases the interest they show in their individual work and in each other's progress (p. 89).

Lansing (1956) in talking about contact between teacher and pupil stated that these contacts are one of the most important means of education in the public schools.

It is safe to assume from the present evidence that the amount of social interaction in the classroom will influence the individual student's perception, feelings, and interpersonal relations, and perhaps even his personality development (pp. 27-28).

All of these writers agree that informal interaction is important to the learning situation but neither Moustakas, Jenkins, nor Lansing differentiate between informal pupil-pupil interaction and informal teacher-pupil interaction. Are informal teacher-pupil contacts of im-

portance to the learning situation? If informal teacher-pupil interaction is important to the learning situation, is the amount of learning that takes place directly related to the quantity of these contacts?

Contacts between teacher and pupil in many instances are centered around the teacher either praising or blaming the student. For this researcher's study it was necessary to determine what effect, if any, praise and blame have upon the student and the learning situation. Many studies dealing with this problem have been carried out. One of the earliest studies was that by Briggs (1927) who concluded that praise is better than reproof but both may be effective. Adams (1934) came to the conclusion that too much praise will defeat its purpose. Doris (1932) after conducting his studies stated that praise is better for young children but it cannot be singled out as being more effective than blame. In another study Hurlock (1925) concluded that girls are more influenced by praise than boys are and that praise is better for the dull or inferior child.

Kasza (1961) conducted a study to determine the effects of praise and criticism on the creative drawings of fifth grade children. He concluded that both boys and girls responded to treatment of praise and criticism quite similarly. This finding did not support the findings of Hurlock, Lueba (1932) and Peck (1933) who all concluded that girls benefit more from praise than do boys. Kasza also concluded that neither praise nor criticism had significantly different effects upon the creative drawings of fifth grade children. His study did indicate that low I.Q. children were affected by praise and criticism more than high I.Q. children. Because of praise and criticism low I.Q. children

achieved greater gains on the post-test art work scores than did the high I.Q. group. In Kasza's study it was evident that both high and low I.Q. groups achieved greatest gains from praise treatments.

Little agreement among the findings concerning effects of praise and criticism is evident. What effects will different amounts of praise and/or criticism have upon the art learning situation?

In analyzing teacher influence Flanders (1965) stated that a certain amount of independence is always present in any teacher-pupil relationship as, in most cases, the student anticipates teacher direction and supervision. Flanders contends that students can be classified as being either dependent-prone or independent-prone and that members of both categories may be found in all classrooms. He defines a dependent-prone student as one who cannot separate the problem-solving requirements from teacher-approval, and he continually seeks teacher support at nearly all stages of his activities. Flanders sees dependence-proneness as a personality trait that is established early in childhood. The dependent-prone has a lower threshold of resistance to compliance than the independent-prone. Dependent behavior usually consists of voluntarily bowing to expected teacher influence or to imagined restraints associated with the teacher's authority. A dependent-prone student is constantly tuned into the real or imagined demands of the teacher. No mention is made by Flanders indicating whether or not he has found to exist a third group of students who combine characteristics of both traits. As an art educator this researcher cannot help but wonder what varying effects different amounts of interaction will have upon these two groups of students.

In reviewing the literature on teacher-pupil interaction one would have to agree with Amidon (1967) when he stated that ". . . teachers at different grade levels hold varying assumptions about the teaching-learning process (p. 173)." Amidon stated that ". . . the role of student participation in teaching is another area of diversity of opinion (p. 173)." In spite of the vagueness it is evident that educators feel that teacher-pupil contacts, especially informal teacher-pupil contacts, play a large role in the learning process.

In examining the effect of teacher-pupil contacts upon the learning situation it became evident that not all contacts have the same effect upon all the learners. It also became evident that the effectiveness of teacher-pupil interaction is dependent upon the type of language used by the teacher, the type of influence exerted upon the learner as well as the number of contacts.

Johnson (1935) found that when a teacher used positive, directive and approving verbal communication with her students this produced a greater amount of compliance with her requests and directions than did directions or requests that were negative, non-specific, and reproofing. An example of a positive request would be "put it in the corner to save the paper" whereas this same request stated negatively would be "don't waste paper." Olson and Wilkinson (1938) examined the same question and substantiated Johnson's findings.

Anderson's and Brewer's (1948) studies demonstrated that the teacher's behavior and personality influenced the behavior of the students in her class. For this study Anderson developed twenty-six categories for the classification of teacher behavior. These categories

were comprised of two main types of teacher behavior whereby the behavior of the teacher was classified as being either dominative or integrative. Withall and Lewis (Gage, p. 692) in reporting Anderson's studies give the following as examples of dominative behavior by teachers: (1) telling a child to move to another part of the room; (2) using warnings, threats, and reminders; (3) punishing by sending out of room; (4) making gratuitous judgment; and (5) calling to attention. Integrative behavior included: (1) questioning to obtain information regarding possible interest of child; (2) helping child to define, redefine, and solve a problem; (3) approving, commending, and accepting the spontaneous self-initiated behavior of the child; and (4) asking questions regarding the child's expressed interests.

In comparing the behavior of the students who had either a dominative or an integrative teacher it became evident that the students who had an integrative teacher were less frequently distracted, exhibited less non-conforming behavior and exhibited a higher frequency of self-directed, spontaneous and cooperative behavior. Teachers who exhibited mainly dominative behavior produced in their students aggressive and antagonistic behavior. Integrative teachers produced in their pupils friendly, cooperative and self-directed behavior.

Flanders (1960) undertook the task of examining the question of how was learning and achievement influenced in the classroom by the nature and quality of the teacher-pupil interaction. Flanders set up two experimental situations. In the teacher-centered situation, the behavior of the teacher tended to support himself first, the problem second, and the pupil third.

Contrasting this is the learner-centered situation, the behavior of the teacher supported the pupil first, the problem second, and the teacher third. In the first situation the student does not have the opportunity to clarify his view or position and in general cannot operate effectively with the teacher. In the course of the interaction in the learner-centered situation the learner is capable of clarifying his position. The teacher-centered situation produced in the students behavior exhibiting withdrawal, apathy toward the achievement problem, aggressiveness, and hostility whereas the learner-centered situation produced less interpersonal anxiety and more problem-solving behavior. Studies by Rehage (1948) and Perkins (1949) both demonstrated that the learner-centered situation is more conducive to the learning of presented information.

In a series of studies conducted by Flanders (1965) he was concerned with analyzing teacher influence and the spontaneous verbal communication of the teacher. For this purpose he set up a fairly extensive and detailed system of interaction analysis. This procedure involved having the recorder clarify every three seconds the verbal statements made by either the teacher or the pupil. In total there were ten categories of verbal behavior. Seven of these were used to classify teacher talk, two to classify student talk, and one category was used to indicate silence. The seven categories of teacher talk were divided into what Flanders called direct and indirect teacher influence. Indirect teacher influence included statements or questions whereby the teacher (1) accepts, clarifies, and supports the ideas and feelings of pupils; (2) praises or encourages student action or behavior; (3) clarifies, builds, or develops

ideas suggested by a student; (4) asks questions about content or procedure with the intent that a student answer. Direct teacher influence included statements whereby the teacher (1) expresses or lectures about his own ideas or knowledge; (2) gives directions or orders; and (3) criticizes or deprecates pupil behavior and justifies his position.

From these studies Flanders concluded that one method of teacher influence is not always superior to the other. There always are some situations in which a teacher should primarily be direct and others in which he should be primarily indirect. He did however illustrate that when a student is confused and unclear as to what or how something is to be done the indirect method is superior to the direct method of influence. His study indicated that if the teacher more often than not used the direct pattern of influence when the students were confused, these students learned less than the students who received indirect influence. If a student's perception of the goal is confusing and ambiguous, learning increases if the student is provided with indirect teacher influence. The reason given by Flanders (1965) is that:

An indirect approach stimulates verbal participation by students and discloses to the teacher students' perceptions of the situation. Such an approach not only provides the teacher with more information about students' understanding of a particular problem, but also often encourages students to develop more responsibility for diagnosing their difficulties and for suggesting a plan of action (p. 116).

Flanders also stated that one of the major reasons why students of direct teachers learned less was because these teachers did not possess the social skills of communication which made it possible for them to accept, clarify, and use the ideas and feelings of students. If a

teacher provided mainly direct influence the students became more dependent upon his directions and suggestions. Because of this the students relied on constant teacher supervision and were not capable of working or analyzing their own problems as well as the other students'. Another important implication was that variability and flexibility of teacher influence was associated with a greater amount of learning by the students. A teacher who is flexible and can use both direct and indirect influence in differing situations promotes a greater amount of learning. It would seem that the flexible teacher is capable of playing a greater variety of roles in the classroom and can shift from one to the other during the learning episode,

Wiske (1951) compared the performance and attitudes of students who had either a directive or a permissive teacher. When asked what style of teaching was preferred the majority of the students indicated a preference for the directive teaching style. The teaching style had no effect upon the performance scores of the brighter students but the average and less able students did better under a directive teacher.

In a similar study Calvin, Hoffman, and Hardin (1957) concluded that the average student was handicapped by a permissive teaching style. In contrast to this the students with above average intelligence performed better with a permissive teaching style.

Jones (1965) conducted a fairly extensive analysis of student and teacher interactions during evaluative dialogue in art. His main objective was to determine what type of verbal behavior of the teacher and student increased and promoted aesthetic and strategy gains in art. An attempt was made to correlate verbal behavior of student and teacher with

differences in learning. One of the conclusions arrived at by Jones was that whereas the student should be open to new experiences the teacher should be fairly rigid in his ideas. Jones also stated that:

It seems that the teacher may be most effective when he presents new ideas with the purpose of expanding or forming the students thinking and then listens while the student relates these new concepts to his own thinking (p. 115).

McVitty (1956) conducted a now classic study dealing with the use of language and art motivation at the fifth grade level. From this study he concluded that art motivations involving strong interest and participation between students and teacher were most effective. Also it was found to be of great importance to center the motivation around the students' experiences and feelings.

Clements (1964) recorded and classified the types of questions that were asked in an art learning situation. He tape-recorded eleven student teachers questioning pupils who were working on their projects. The questions recorded were ones addressed by the teachers to specific pupils. His classification system consisted of ten distinct and easily understood categories. No attempt was made by Clements to determine what type of questions are most effective. From his study he found that suggestion order questions where suggestions and orders were often disguised as questions were most frequently asked. Process recall questions were second in frequency followed by judgment questions and intent questions. Younger children were more frequently asked experience questions than were older students. Contrasting this the older groups were asked a greater frequency of judgment questions. No relationship was obtained between question types and pupil's actions.

In a follow-up study Clements (1965) examined the questioning process used by art teachers at the first grade, seventh grade, and college level. His main concern was to determine how questioning changes from teacher to teacher, level to level, and art lesson to art lesson. After recording and transcribing forty art sessions Clements concluded that teachers ask a large number of questions and that in many cases teachers did not praise and give the student a chance to think and answer these questions. On the average teachers asked a question a minute and over half the answers were one second or less in duration. As was evident in his first study 50% of the questions asked at the first grade level were experience questions. The percentage of experience questions asked decreased with the increased age of the students. Very few judgment questions (4%) were asked at the first grade level. At the seventh grade (36%) and college level (24%) judgment questions were most frequently asked. College teachers asked the least amount of experience and intent questions (8%, 8%).

In examining the type of questions asked and the length of the answers, Clements observed that some question types received longer answers than others. Beginning questions where the student is asked to talk about his work received the longest answer (8 seconds). Judgment questions received the second longest answers (4 seconds) while experience questions received answers of two seconds in length. The direction question types usually received no answers at all. Flanders' categories of indirect teacher influence correlate with the question types which Clements found to receive longer student answers. Indirect

teacher influence encourages students to talk about their own work, ideas, feelings and problems, whereas direct teacher influence is more concerned with the teachers' ideas and with giving direction.

A synthesis of the studies conducted by Flanders, Jones, McVitty, Rehage, Boswell, Kasza, Clements and others indicates that any teacher behavior which takes into account student views, feelings, interest, and problems produces a more conducive learning environment. More learning takes place when the student is treated as an individual. Their studies also indicate that the students' needs and views must become an important determining factor in the learning situation. Specifically, verbal statements and questions asked by the teacher must encourage and give the students the opportunity to verbalize more.

Summary

Past research has indicated that various elements or aspects of social interaction have an effect upon the learning situation. Educators such as Moustakas, Jenkins, and Lansing agree that informal interaction is of importance, but they do not differentiate between informal pupil-pupil interaction and informal teacher-pupil interaction. How important are informal teacher-pupil contacts to the learning situation?

Research dealing with the effects of praise and criticism has not come up with any conclusive evidence. In examining the effects of praise and criticism upon the creative drawings of fifth grade children, Kasza concluded that neither praise nor criticism had significantly different effects.

Researchers such as Flanders, Jones, Clements, Rehage, Hurlock, McVitty and others have all indicated that any teacher behavior which places importance upon the learner, his need, views, problems, and feelings produces a learning situation which is more conducive to learning. These studies point out the need for the teacher to be more concerned with the student rather than the subject content and the ideas of the teacher.

After reviewing the literature related to informal interaction, an important question presented itself. What effects will different amounts of informal teacher-pupil interaction have upon the learning of art concepts by third grade students?

CHAPTER III

PROCEDURES AND DESIGN OF THE STUDY

Introduction

In this chapter an explanation of the study, teaching experiment, collection and evaluation of data and statistical procedure for analysis of data is provided.

Setting of the Study

The study was conducted within the Edson School Division during April, May, and June of the 1969 school year. Geographically Edson, Alberta is situated 125 miles west of Edmonton. It has a population of approximately 5,000, with the oil and forestry industries being the economic backbone of the area. The study was conducted in the A.H. Dakin primary grade school, one of the two primary grade schools in the town of Edson. The total enrolment for the three grades in the school was 350 students. With the exception of grade one, the students in the other two grades received instruction from several teachers. In some of the subject areas such as spelling, science, and social studies the students took part in a team teaching situation. The art program for the third grade students was conducted by one teacher who was not an art major, but was interested in the subject. Each of the three third grade classes received art instruction for a period of fifty-five minutes a week. An art room as such did not exist in the school; thus, the art activities were conducted in one of the regular classrooms.

Sample

The sample of subjects consisted of all the third grade students at the A. H. Dakin School in Edson, Alberta. In this school there were three third grade classes, each with an approximate enrolment of thirty-one or a total of ninety-three students. The sample consisted of students of both sexes, whose ages as of June 1, 1969, ranged from 8.1 to 10.1 years.

The Otis Quick Scoring Mental Ability Test was administered to all of the third grade students on March 17, 1969. I.Q. scores for the sample ranged from a low of 83 to a high of 143 with an average I.Q. of 109.33 being obtained. The mean I.Q. for each of the three classes was 108, 109, and 111 respectively.

Of the ninety-three students, approximately sixty were town students while the remainder were transported to the school from surrounding rural districts.

The Teaching Experiment

In this experiment the independent variable was informal teacher-pupil interaction. The study was conducted over an eight week period with two weeks being devoted to the pre- and post-tests and six weeks to the experiment. As explained in Chapter I, informal teacher-pupil interaction included a teaching method comprising of questions or statements which:

- (a) provoked the learner to see his own solutions by reflecting on what was taught and on what he was doing. Example: What else could you do to make your center of interest more important?

- (b) accepted the feelings and opinions of the student, Example: Yes, I also think that if you were to add brighter colors to the dress, the girls would look more important.
- (c) praised or encouraged what the student was doing. Example: The texture on the tree trunk is very good. Keep up the good work!
- (d) accepted and built upon ideas suggested by the student. Example: Yes, I think it would be a very good idea to show how the trees bend in a storm.
- (e) asked questions about the content of procedure. Example: Your grass and rocks are very interesting. How did you do that?

The teaching experiment consisted of three different degrees or amounts of informal teacher-pupil interaction or contacts, namely a minimum, a moderate, and a maximum amount of contacts. Each of the three groups was assigned, on a random basis, to receive one of the three amounts of interaction. The three groups were in-tact groups and were used for the study as they were found in the school. In no way or at any time were the three groups re-arranged or modified. In Group A, there was a minimum amount of informal teacher-pupil interaction. During the six art lessons an attempt was made not to provide any of the students in this group with any informal teacher-pupil contacts. In Group B, approximately one-half of the students, during any one lesson, were involved in an informal teacher-pupil contact. For each art lesson, the students in this group were singled out for attention on a random basis. Hopefully some students did not receive attention during every art lesson. The students who received attention were those who were sitting in the marked desks. The desks were marked on a random basis each week just prior to the students coming in for the art lesson. Marks were placed in a relatively inconspicuous area of the desk in order that the student would not detect and/or remove them. In Group C there was a maxi-

mum amount of interaction where an attempt was made to provide individual attention for all of the students during each and every art lesson.

Six lessons were taught in all, with each lesson being approximately 55 minutes in length. Starting on the 25th of April, 1969, the lessons were taught every Friday for six weeks. (Table I represents a model of the experimental design) The lessons were centered around the topics of line, texture, and center of interest. (See Appendix for lesson plans). Two lessons were devoted to each topic with the researcher serving as teacher for the entire experiment. With the exception of the amounts of informal teacher-pupil contacts that each group received during each art lesson, the lessons were made as similar as possible. This was necessary to possibly prevent or at least minimize the effects of other variables. To help provide lessons as similar as possible for each of the three groups, detailed lesson outlines were drawn up. Each lesson plan included the amount of time to be spent, concepts and topics to be introduced and talked about, and major questions to be asked.

The first five minutes of the fifty-five minute lesson usually consisted of a brief review of what took place the previous week. Following the review, approximately twenty-five minutes were spent in teaching the students one of the new concepts. Following the teaching segment, the remaining time was used by the students in working on their own. The activity during the last twenty-five minutes was directly related to the first part of the lesson and was an activity which presented an opportunity for the student to use what was taught by either drawing, painting, or

TABLE I

MODEL OF THE EXPERIMENTAL DESIGN

Time	Content	Methods of instruction
Week 1	Pre-test	
Weeks 2, 3, 4, 5, 6, and 7.	Lessons 1 and 2: line. Lessons 3 and 4: texture.	Group A- The students were provided with a minimum num- ber of informal teacher- pupil contacts. N = 31
Six 55 minute lessons. One lesson per week.	Lessons 5 and 6: center of in- terest.	Group B - The students were provided with a moderate num- ber of informal teacher-pupil contacts. N = 31 Group C - The students were provided with a maximum num- ber of informal teacher-pupil contacts. N = 31
Week 8	Post-test	

pasting shapes. During the portion of the lesson when the students were working on their own, informal teacher-pupil contacts were with Groups B and C. An attempt was made to make the contacts of the same length with the average contact lasting for about one minute. In Group A the students worked entirely on their own and no teacher initiated contacts were made. Occasionally when a student came and asked for help, he was told to try and solve his problem as best he can on his own.

Two groups were taught in the morning and one was taught in the afternoon. To control for the factors of teacher and pupil fatigue and also for subconscious improvement in the teaching of the lessons, the order in which the groups were taught was changed from week to week. During the first week, the order of groups was B, C, and A. The following week C was first, then A, and then B. This rotation of group order continued for the duration of the study.

Pre- and Post-Testing

The pre-test was administered on the Friday prior to the six weeks experiment and the post-test was administered immediately following. Both tests were about fifty-five minutes in length with the first five minutes serving as an introduction to the session and the next twelve minutes were used in showing a film. Different films were shown during the pre- and post-tests but both films were approximately twelve minutes in length; both were about animals; and both were in black and white. The film used during the pre-test was entitled The Adventures of Bunny Rabbit and during the post-test the film The Adventuring Pups was shown. At the end of the first film, the narrator asked the question, "What do you think Bunny Rabbit is telling his mother?" and in the second film the question posed was "What do you think they are dreaming about?". The children's pictures were to provide answers to these questions.

Following the showing of each film, a discussion for about ten minutes concerned the children's answers to the questions raised in the film. As the paper was distributed the children were asked to close their

eyes and try to visualize their pictures. In both cases the children were asked to make the best pictures possible and in the post-test they were reminded to draw upon the content of the six lessons in helping them tell a better story in their pictures.

During the pre-and post-tests extra crayons, brushes and oil pastels were made available for the students. The children were told that they should try to finish their pictures before the period ended.

Data Collected for Evaluation

Approximately 180 pictures were collected during the course of the pre- and post-tests. All of the pictures were student responses to the questions raised in the two films. Since the students were not restricted to one specific medium, some pictures were drawn with pencil and crayons, some were painted with water colors and tempera paint, and some were a combination of drawing and painting. Most of the pictures were completed but some were not. If a student did not complete his or her picture no additional or extra time was provided. All pictures were collected immediately following the fifty-five minute pre- and post-testing sessions.

Before the pictures were collected a check was made to ensure that all students had placed their names on the back of their pictures. Once collected, the pictures from the three groups were sorted at random and were numbered. The identifying numbers were stapled on the front of the pictures.

Instrument Used to Evaluate the Art Products

Eisner, writing in 1963, stated that:

The evaluation of children's art has been and continues to be one of the most vexing problems in the teaching of art. Making judgments about the adequacy of a child's art work is no easy task. Neither the criteria nor the standards to be applied are easily selected (p. 20).

In the last six years the situation remains largely unchanged as the problem of setting up an objective and effective criteria for the evaluation of art products is one which still confronts all teachers and researchers who are faced with the task of evaluating art products.

For this study the researcher was faced with the task of either selecting an already established and tested criteria and using it as such or of selecting criteria and then choosing, modifying, and changing it to suit this study.

Of the criteria available to the art researcher and teacher of art, Lowenfeld's is one of the best known. Lowenfeld (1961) established his well-known criteria for evaluating children's growth in visual communication. For him the term "growth" included intellectual, emotional, social, perceptual, physical, aesthetic, as well as creative growth. Under each separate area of growth, Lowenfeld formulated several objective criteria which were rated on a three point scale. McVitty (1956) in his doctoral thesis An Experimental Study on Various Methods in Art Motivation at the fifth grade level has shown that Lowenfeld's criteria were sufficiently objective. Lansing (1956) after looking at the various criteria available for the evaluation of art products was of the opinion that Lowenfeld's criteria were probably the best available at the time.

Rouse (1965) attempted to develop and to establish the reliability and validity of a descriptive measure for use in future studies in the field of art education. She set out to identify and select the most common descriptive characteristics which usually appear in different kinds of art products. She found 313 different terms of characteristic items that were used by writers in talking about art. From this large number she selected thirty most commonly used terms and these then were used in the measure of a number of art products. A determination of the reliability and validity of the measure was made. Following this a further deletion left her with a list of twenty criteria. These have been used to evaluate two and three dimensional art. The correlate coefficients for these criteria were found to range from .61 to .91. In using these criteria Rouse concluded that a five point scale was superior to a three point scale.

Eisner (1963) stated ". . . any method used to evaluate a child's work should be consonant with not only the particular purposes of art education, but also the larger scheme of education of which it is a part" (p. 20). The criteria must be set up or based upon a clear formulation of objectives and there should be a direct relationship between the objectives of a program and a series of learning experiences and the criteria. With this in mind the researcher decided to select and modify three of the twenty criteria used by Rouse. The three criteria that were used in evaluating the children's art products were:

- (1) Line: Non-variation/Variation
- (2) Amount of Texture: None/Great deal of texture

- (3) Center of Interest: No center of interest/Strong center of interest

(See pages 41, 42, 43 for the three criteria).

In using the criteria of line and texture Rouse obtained correlation co-efficients of .72 and .91 respectively. This indicates a high interjudge reliability. The criterion center of interest as used in this study was a modification of the "Non-Dominance/Dominance" criterion used by Rouse where a correlation co-efficient of .66 was obtained.

Because Rouse found that a five point scale was superior to a three point, a five point scale was used in this study. In using the three criteria, the judges were asked to check off the category which best described the picture in terms of that specific criterion. Each of the five categories was given a numerical weighting which was later used in tabulating the total score for each art product. The numerical weighting or score ranged from one to five points. By indicating what category best described the art product, each judge independently assigned a score to the art product. One score was provided for the criterion of line, another score for the criterion of texture, and a third score for the criterion of center of interest.

Evaluation of Children's Art Products

Four students, pursuing the Master of Education degree with specialization in art education in the Faculty of Education at the University of Alberta, used the evaluative instrument to evaluate the children's art works. Their professional background and personal experience qualified them as judges of children's art work. A judge training session was

held which gave the judges an opportunity to discuss and clarify any problems they may encounter in judging the art products.

Using the criteria, the judges were asked to judge ten pictures which were not part of the study. Following the judging, each criterion was considered and discussed. After all were clear on the criteria and the various categories, the judges proceeded to evaluate the 180 pictures using the instrument.

The pre- and post-test pictures were all arranged on a random basis in one room. Each picture was given a number and the judges were not aware of the identification nor the circumstances under which the picture was produced. To control the "halo effect" in judging, the judges were asked to take one criterion and use it to judge all of the pictures before applying a second criterion.

To control for efficiency in using a criterion and also to control for fatigue, each judge had to start judging at a certain point. For example, Judge One had to begin with picture number one, Judge Two started with picture number forty-five, Judge Three with picture number ninety, and Judge Four with picture number one hundred thirty-five. All of the judging was done in one day over a period of approximately six hours.

Tabulation of Art Product Scores

After all of the 180 art products were independently judged by each of the four judges a tabulation was carried out to arrive at the following scores for each art product:

- (a) Total score on all three criteria

- (b) Total score on criterion of line
- (c) Total score on criterion of texture
- (d) Total score on criterion of center of interest.

The instrument consisted of the line, texture, and center of interest criteria. The four judges independently used each of the three criteria in evaluating the 180 art products. Thus for picture number one, Judge One, in using the criterion of line, would check off the category which best described that picture in terms of the variety of line present. If, in the eyes of the judge, the picture exhibited a great variation in both thickness of line and in media that were used in producing the line, the judge would check category number five thereby giving a score of five to the picture on the line criterion. If the picture exhibited no variation of line then the judge would check category number one and in this manner give a score of one to the picture on the line criterion. In using the other two criteria, Judge One would use the same procedure in evaluating picture number one. In so doing the judge would provide three separate scores for picture number one. A combination of these three scores would be the overall score given by Judge One to picture one. If this judge checked off category number one on each of the three criteria then his total score for the picture would be three. If he checked off category number three on the criterion of line, number five on texture and three on center of interest, the total score given by Judge One for that composition would be eleven. The total score on all three criteria for art product number one was the sum of the four judges total scores for that product. A total score on the criterion of line

was obtained by adding the scores assigned to the art product by the four judges when the criterion of line was used. The total score on the criterion of texture and criterion of center of interest was obtained in the same manner. Once all of the total scores were tabulated they were then recorded on a summary sheet. (See Appendix for a sample summary sheet). From the summary sheet, the pre- and post-test means were calculated for each of the three treatment groups. Table II, page 40 is a summary of the pre- and post-test means.

Statistical Procedure for Analysis of Data

To test the null-hypotheses and their sub-hypotheses, the difference between pre- and post-test scores was computed for each of the subjects. These scores were then used to arrive at the group mean differences. (See Table III for the summary of group mean differences).

In testing null-hypothesis 1 and its sub-hypothesis, it was not possible to test for interaction. This was not possible as the researcher used the three groups of third grade children as in-tact groups for the experimental treatments. The three group means on the pre-test were not similar. For this reason in testing null-hypothesis 1 and its sub-hypothesis a one-way analysis of variance was computed. A two-way analysis of variance was carried out in testing hypotheses 2 and 3 and the sub-hypotheses of 2 and 3. The computer at the University of Victoria was used to carry out the required analysis of data. All information in the form of F ratio and probability scores was obtained from the print-outs. The .05 level of significance was used to accept or reject the hypotheses.

TABLE II
SUMMARY OF PRE- AND POST-TEST MEANS FOR THE THREE TREATMENT GROUPS

Treatment Groups	Pre-Test Means				Post-Test Means			
	Three Criteria	Criterion of line	Criterion of texture	Criterion center of interest	Three Criteria	Criterion of line	Criterion of texture	Criterion center of interest
A	29.21	8.41	9.45	11.34	28.14	8.62	10.14	9.62
B	27.52	8.21	8.45	10.86	31.41	9.03	11.10	11.28
C	27.31	8.52	9.21	9.59	29.17	8.97	10.72	9.45

Judge _____

Directions

As you come to an art product place the identification number of that product in the space provided on the criterion sheet. After this is done and you have examined the product check one of the five categories which best describes it in terms of this criterion. Any bold mark will serve to indicate your choice.

Criterion of Line: Non-Variation/Variation

Line is defined as the path produced by a moving point for the purpose of representing the outline of objects and for the representation of action and decoration. (Do not include obvious representation of texture as line or variation in thickness of line.)

Would you describe the produce as one which:

[illegible]

Judge _____

Directions

As you come to an art product place the identification number of that product in the space provided on the criterion sheet. After this is done and you have examined the product check one of the five categories which best describes it in terms of this criterion. Any bold mark will serve to indicate your choice.

Criterion of Texture

Texture is defined as real or apparent surface quality of an object.

Would you describe the product as one which:

	Identification number of art product																			
1	Is completely lacking in texture.																			
2	Shows only one type of texture.																			
3	Shows a moderate amount of texture (possibly only on most important surfaces).																			
4	Shows a good deal of texture (at least four different ones).																			
5	Has a large amount of texture present or suggested. Almost all surfaces are varied in some way.																			

Judge _____

Directions

As you come to an art product place the identification number of that product in the space provided on the criterion sheet. After this is done and you have examined the product check one of the five categories which best describes it in terms of this criterion. Any bold mark will serve to indicate your choice.

Criterion Center of Interest

Center of interest is to be viewed as being the most important part of the composition.

Would you classify the composition as having:

	Identification number of art product																			
1	No center of interest as all areas or parts of the composition seem to be of equal importance.																			
2	A center of interest that is evident because of <u>one</u> of the reasons stated in category 5.																			
3	A center of interest that is evident due to <u>two</u> of the reasons stated in category 5.																			
4	A center of interest that is clearly discernible due to <u>three</u> of the reasons stated in category 5.																			
5	A definite strong center of interest due to the following reasons: a. the placement of the subject matter, b. color used, c. texture present or implied, d. amount of detail present, e. size of the subject matter.																			

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

Introduction

After removing several subjects from the sample because of their not being present for the pre-test and/or post test, 29 subjects remained in each of the three treatment groups.

In testing the hypotheses of this study a one-way analysis of variance was conducted to test null-hypothesis 1 and a two-way analysis of variance was conducted to test null-hypotheses 2 and 3.

Null-Hypothesis 1. There are no significant differences in mean gains in pre- and post-test scores of art works among the three experimental groups of third grade students receiving varying amounts of informal teacher-pupil interaction.

Sub-Hypothesis of 1. There are no significant differences in mean gains among the three experimental groups on scores obtained from art works judged on each of the following art learning concepts:

- a) line
- b) texture
- c) center of interest.

Results

The question to be answered in testing Null-Hypothesis 1 is whether knowledge of what treatment group the subject was in adds significantly to the prediction of his change in score from the pre-test to the post-test. An analysis of variance was carried out which indicated that when the difference between the pre- and post-test total score on all three criteria was used as the dependent variable, treatment was a significant predictor of subjects' change in score. (.01)

Treatment was also a significant predictor of the change in score when the criterion of texture was used as the dependent variable (.00).

When the criterion of line and the criterion center of interest was used as the dependent variable, treatment was not a significant predictor (.68, .07). (See Tables IV, V, VI, and VII.)

Conclusion

Null-hypothesis 1 was rejected because varying amounts of informal teacher-pupil interaction did in fact produce differences in scores of art works produced by the third grade students. On the total score of the three combined criteria the group where a moderate number of contacts took place achieved the highest mean score. The group where a maximum number of contacts were present achieved the second highest mean score, whereas the lowest mean score was obtained by the group where a minimum number of contacts were present.

Sub-hypothesis a) was accepted as the differences in mean gains in scores, that were obtained when the art products were judged on the criterion of line, were not significant. (See Table V.) Sub-hypothesis b) was rejected as there were highly significant differences in mean gains in score when the art products were judged on the criterion of texture. (See Table VI.) Sub-hypothesis c) was accepted as there were no significant differences in mean gains when the art products were judged on the criterion center of interest. (See Table VII).

TABLE III

SUMMARY OF GROUP MEAN DIFFERENCES BETWEEN
PRE- AND POST-TEST SCORES

Treatment		Criteria			
		Total	Line	Texture	C. of I.
Group A	(Minimum amount of teacher-pupil contacts)	-1.07	0.21	0.69	-1.72
Group B	(Moderate amount of teacher-pupil contacts)	3.90	0.83	2.66	0.41
Group C	(Maximum amount of teacher-pupil contacts)	1.86	0.45	1.52	-0.14
A	Boys	-1.70	0.20	0.60	-2.15
	Girls	0.33	0.22	0.89	-0.78
B	Boys	2.71	0.64	1.79	0.29
	Girls	5.00	1.00	3.47	0.53
C	Boys	-1.07	-0.60	0.93	-1.47
	Girls	5.00	1.57	2.14	1.29
A	Above Average I.Q.	-0.90	-0.30	1.00	-1.60
	Average I.Q.	1.50	1.70	1.50	-1.70
	Below Average I.Q.	-4.11	-0.89	-0.56	-1.89
B	Above Average I.Q.	4.89	1.11	2.89	0.89
	Average I.Q.	5.27	1.09	2.73	1.45
	Below Average I.Q.	1.22	0.22	2.33	-1.33
C	Above Average I.Q.	1.22	0.56	1.00	-0.44
	Average I.Q.	2.60	0.10	2.50	0.0
	Below Average	1.70	0.70	1.00	0.0

TABLE IV

ONE-WAY ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE- AND POST-TEST
SCORES ON TOTALS OF THREE CRITERIA AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
Treatment	.361	2	180.7	4.70	.01*
Error	.323	84	38.5		

* Accepted as significant.

TABLE V

ONE-WAY ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE-AND POST-TEST
SCORES ON CRITERION OF LINE AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
Treatment	.568	2	2.84	0.38	.68*
Error	.620	84	7.38		

* Not accepted as significant.

TABLE VI

ONE-WAY ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE- AND POST-TEST
SCORES ON CRITERION OF TEXTURE AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
Treatment	.565	2	28.24	6.31	.00*
Error	.376	84	4.48		

* Accepted as significant.

TABLE VII

ONE-WAY ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE- AND POST-TEST
SCORES ON CRITERION CENTER OF INTEREST AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
Treatment	.714	2	35.72	2.75	.07*
Error	.109	84	13.00		

* Not accepted as significant at the .05 level.

Discussion

The data from this study has indicated that it is possible to increase scores on art works through the use of informal teacher-pupil contacts. It is also evident that varying amounts of contacts and possible different types of contacts have a differing effect upon the scores on art works. When provided with a maximum of contacts the students' scores on art works were lower than was the case when a moderate amount of contacts took place. Through these contacts pupils received individual attention, praise, acceptance of their views and ideas and also received additional motivation. In Group C where all students were involved in an informal teacher-pupil contact every lesson, these contacts were probably looked upon as something to be expected and not really earned. They were not really initiated as a result of something that the student did. In Group B where only half of the members received attention during any one lesson, students did not know why they would or would not be involved in a teacher-pupil contact. For this reason it is possible that contacts were looked upon as a form of reward and something you had to work for. It is also possible that because these students did not know the reason for being provided with individual attention they worked harder and applied themselves more with the intent of receiving attention. When a student took part in a teacher-pupil contact it possibly was viewed as a reward in itself and in addition to providing additional help or motivation, was a reinforcement of what the student was doing in his art work. The writer concluded that although informal teacher-pupil

interaction can increase scores on art works there needs to be further research carried out in the area related to the context of these contacts. In what context are informal teacher-pupil contacts most effective? With a limited amount of time available and a large number of students to deal with this information is of great importance to the teacher.

An examination of the mean gains in scores for the three experimental groups indicated that, irrespective of the amount of informal teacher-pupil interaction, the art work scores on the interior of texture were the highest whereas the art work scores on the criterion center of interest were lowest. (See Table III). This probably was due to the nature of the concepts with the concept of texture being the most meaningful and easiest to comprehend by the third grade child whereas the concept center of interest was a difficult one for the child to grasp after two lessons. Additional emphasis, lessons, and time would possibly enable the students to learn and incorporate into their art work the information concerning center of interest.

Null-Hypothesis 2. There are no significant differences in mean gains in pre- and post-test scores of art works among the three experimental groups of third grade students receiving varying amounts of informal teacher-pupil interaction in which the variable of sex (boy/girl) has been controlled.

Sub-Hypothesis of 2. Among the three experimental groups, in which the variable of sex (boy/girl) has been controlled, there are no significant differences in mean gains on scores obtained from art works judged on each of the following art learning concepts:

- a) line
- b) texture
- c) center of interest.

Results

The question to be answered in testing Null-Hypothesis 2 is whether knowledge of the subject's sex adds significantly to the prediction of his change in score on the total score on all three criteria, from the pre-test to the post-test. Using the difference between the pre- and post-test score on the total score of all three criteria as the dependent variable it is evident that sex is a significant predictor (.01). Sex is also a significant predictor of the subject change in score on the criterion of texture (.02) whereas on the criterion of line, sex was not a predictor (.14) nor was it a significant predictor of the change in score on the criterion center of interest (.07). (See Tables VIII, IX, X and XI.)

Conclusion

Null-Hypothesis 2 was rejected because the treatments did not have the same effects upon the boys as it did upon the girls. The girls' change in score was significantly higher than that of the boys' Sub-hypotheses a) and c) were accepted. Between the boys and girls groups there was no significant difference in mean gains in score when the art products were judged on the criterion of line and on the criterion center of interest. Sub-hypothesis b) was rejected because a significant difference in mean gains between the boys and girls groups existed when the art products were judged on the criterion of texture. (See Tables VIII, IX, X and XI.) A test for interaction between the variables of sex and treatment indicated that interaction was not significant.

TABLE VIII

TWO-WAY ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE- AND POST-TEST
SCORES ON TOTALS OF THREE CRITERIA AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
Sex	0.258	1	0.258	7.21	.01*
Treatment	0.253	2	0.126	3.53	.03*
Interaction SXT	0.717	2	0.359	1.00	.37
Error	0.290	81	0.358		

* Accepted as significant.

TABLE IX

TWO-WAY ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE- AND POST-TEST
SCORES ON CRITERION OF LINE AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
Sex	0.164	1	0.164	2.28	.14*
Treatment	0.303	2	0.151	0.21	.81*
Interaction SXT	0.186	2	0.093	1.21	.28*
Error	0.585	81	0.722		

* Not accepted as significant.

TABLE X

TWO-WAY ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE- AND POST-TEST
SCORES ON CRITERION OF TEXTURE AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
Sex	0.250	1	0.250	5.87	.02*
Treatment	0.437	2	0.219	5.14	.00*
Interaction SXT	0.661	2	0.331	0.78	.46
Error	0.344	81	0.425		

* Accepted as significant.

TABLE XI

TWO-WAY ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE- AND POST-TEST
SCORES ON CRITERION CENTER OF INTEREST AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
Sex	0.442	1	0.442	3.49	.07*
Treatment	0.505	2	0.252	1.99	.14*
Interaction SXT	0.228	2	0.114	0.90	.41*
Error	0.103	81	0.127		

* Not accepted as significant.

Discussion

The statistics clearly indicated the differing effects the treatments had upon the boys and girls groups. In general, irrespective of the amount of informal teacher-pupil interaction, the girls' scores on art works judged on all three criteria were higher than were the boys'.

In Group A where there was a minimal amount of teacher-pupil interaction both the boys' and girls' post-test art work scores were affected. The boys' overall mean score from the pre-test to the post-test changed by -1.70 whereas the girls' score remained the same. In Group A the learning of art concepts by both the boys and girls was hampered by the lack of informal teacher-pupil contacts. When the learners in Group B were presented with a moderate number of informal teacher-pupil contacts and when the learners in Group C were provided with a maximum number of contacts, the boys did not gain in art work scores as much as did the girls. A mean gain in score of 5.00 points for the girls in both treatment Groups B and C was obtained (See Table III). This finding supports the conclusion arrived at by Hurlock (1925) who concluded that girls are more influenced by praise. Another possible reason for the varying effects moderate and maximum amounts of interaction had upon the boys and girls groups was the nature and number of contacts. An examination of the mean change in score for the boys in treatment Groups B and C indicates that boys in Group B learn more than boys in Group C. The reasons cited earlier in this paper could possibly be an explanation for this varying effect. Adams (1934) after conducting his study concluded that too much praise will defeat its purpose.

From this study it becomes evident that although informal teacher-pupil contacts are important to the learning situation, other factors such as the nature, quality, and quantity of these contacts are of importance. Further research will need to be conducted to determine what type of contacts, when and how often, have the greatest effect in promoting learning.

Null-Hypothesis 3. There are no significant differences in mean gains in pre- and post-test scores of art work among the three experimental groups of third grade students receiving varying amounts of informal teacher-pupil interaction in which the variable of I.Q. (low, average, high) has been controlled.

Sub-Hypothesis of 3. Among the three experimental groups in which the variable of I.Q. (low, average, high) has been controlled, there are no significant differences in mean gains on scores obtained from art works judged on each of the following art learning concepts:

- a) line
- b) texture
- c) center of interest.

Results

The question to be answered in testing Null-Hypothesis 3 is whether knowledge of the subjects' I.Q. score adds significantly to the prediction of his change in score from the pre-test to the post-test. The subjects in each of the three experimental groups were divided into low, average, and high I.Q. groups. All subjects with an I.Q. of 103 or less were classified as having a low I.Q. Any subject with an I.Q. greater than 103 but less than 117 was classified in the average I.Q. group, and all subjects with an I.Q. greater than 116 were classified as having a high I.Q. A two-way analysis of variance was carried

out which indicated that when the difference between the pre- and post-test scores on the total score of all three criteria was used as the dependent variable, I.Q. was not a significant predictor nor was I.Q. a significant predictor when the criterion of line, criterion of texture, and criterion center of interest were separately used as dependent variables. (See Tables XII, XIII, XIV, and XV). There was no significant interaction between treatment and I.Q.

Conclusion

Since knowledge of subjects I.Q. was not a significant predictor of change in score, Null-Hypothesis 3 and the Sub-Hypothesis of 3 were all accepted. A separate examination of the three I.Q. groups and the effect various amounts of informal teacher-pupil had upon the learning of art concepts provided some interesting and revealing information. Of the three treatment group situations, the low I.Q. students achieved highest post-test mean scores in Group C where every child, during each art lesson, took part in an informal teacher-pupil contact. This is probably due to the need these students have of receiving additional teaching, praise, and motivation. The researcher concludes that if the low I.Q. student is to receive meaningful education in an ordinary heterogeneous class, informal contacts will play a large role in helping achieve this end.

The student with an average I.Q. achieved highest post-test art work scores in treatment Group B where half of the students during any one art lesson were involved in an informal teacher-pupil contact. It

TABLE XII

ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE- AND POST-TEST
SCORES ON TOTALS OF THREE CRITERIA AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
I.Q.	.177	2	.883	2.31	.11
Treatment	.356	2	.178	4.66	.01*
Interaction IQXT	.764	4	.191	0.50	.76
Error	.298	78	.382		

* Accepted as significant.

TABLE XIII

ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE- AND POST-TEST
SCORES ON CRITERION OF LINE AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
I.Q.	.126	2	.629	0.85	.43*
Treatment	.530	2	.265	0.36	.70*
Interaction IQXT	.298	4	.746	1.01	.41*
Error	.578	78	.741		

* Not accepted as significant.

TABLE XIV

ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE- AND POST-TEST
SCORES ON CRITERION OF TEXTURE AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
I.Q.	.246	2	.123	2.84	.06
Treatment	.551	2	.275	6.35	.00*
Interaction IQXT	.131	4	.327	0.75	.56
Error	.338	78	.434		

* Accepted as significant.

TABLE XV

ANALYSIS OF VARIANCE WITH DIFFERENCES BETWEEN PRE- AND POST-TEST
SCORES ON CRITERION CENTER OF INTEREST AS THE DEPENDENT VARIABLE

Source	S.S.	df	M.S.	F	P
I.Q.	.147	2	.737	0.55	.58*
Treatment	.713	2	.356	2.65	.08*
Interaction IQXT	.283	4	.708	0.53	.72*
Error	.105	78	.135		

* Not accepted as significant.

interesting to note that the students with an average I.Q. gained in score regardless of the treatment groups they were in. In treatment Group A, where there was a lack of interaction, the low I.Q. and high I.Q. groups achieved lower post-test art work scores than did the average I.Q. group who achieved higher post-test art work scores. It is possible to conclude that unlike the low and high I.Q. groups, the average I.Q. group achieved higher post-test art work scores because the lack of contacts did not have an immediate effect upon the average I.Q. child during six weeks of teaching. It is possible that the child with an average I.Q. participates in fewer informal teacher-pupil contacts during his usual schooling than either of the other two groups of children. This probably is due to the teaching being geared to his level with extra help being provided for the below average child, and enriched work and help provided for the above average child. If this is true then the lack of informal teacher-pupil contacts were not missed by the children in the average I.Q. group.

The high I.Q. students achieved the highest post-test art work scores in Group B where half of the students received attention during any one art lesson. Informal contacts produced a gain in post-test art work scores on the part of the high I.Q. students.

Summary of Findings

The main purpose of this study was to determine if informal teacher-pupil contacts had an effect upon the learning of art concepts by third grade students. Results indicated that informal contacts do have

an effect upon the learning situation with lack of contacts producing a drop in post-test art work scores and the presence of contacts increasing the post-test art work scores. Of the three experimental treatments, minimum, moderate, and maximum number of informal teacher-pupil contacts, Group B where half of the students took part in informal teacher-pupil contacts during any one lesson, produced greatest gains in scores.

Regardless of the number of teacher-pupil contacts girls learned more than did the boys. Of the three experimental situations, the moderate and maximum treatment situations produced the same amount of learning on the part of the girls. Boys learned most in the moderate situation whereas in the minimum situation a regression in learning took place.

An examination of the effects different amounts of teacher-pupil contacts had upon the three I.Q. groups of students indicated that the below average I.Q. students learned most when each student took part in a teacher-pupil contact every art lesson. The average I.Q. group gained in score in all three experimental treatments but like the high I.Q. students they learned most in the moderate situation. Of the three I.Q. groups the average I.Q. group did not miss the lack of contacts in the minimum situation as much as did the other two groups of students.

In examining the effects different amounts of informal teacher-pupil contacts had upon the third grade students ability to learn the conception of line, texture, and center of interest, it is clear that it is not possible to make one sweeping generalization concerning outcomes resulting from manipulation of the variable of amount or quantity of such teacher-pupil contacts. In this study only the amount or quantity of

teacher-pupil contacts was examined experimentally and it is obvious that results were obtained which may also have been influenced by the quality and timing of these contacts. These latter variables were not examined under experimental rigor in this study.

CHAPTER V

SUMMARY AND IMPLICATIONS

Summary of the Study

The researcher's concern for providing meaningful education and education which views each learner as a being with individual needs that are or could be different from those of other students led to the examination of informal teacher-pupil interaction in the classroom. Can informal teacher-pupil interaction help make education more meaningful? A review of the literature dealing with teacher-pupil interaction indicated that interaction is important to the learning situation. It also became evident that interaction in the classroom is a complicated area where various elements and variables of the social process come into play and have varying effects upon the learners and the learning situation. An interest in and desire to obtain more information concerning informal interaction promoted the researcher to set up a study whose major purpose was to determine what effects different amounts of informal teacher-pupil interaction will have upon third grade children's ability to learn art concepts.

The study was conducted in the A. H. Dakin School, Edson, Alberta where the three third grade classes were used for the experiment.

The experiment and the pre- and post-testing was conducted over a period of eight Fridays. The variable controlled was the number of informal teacher-initiated teacher-pupil contacts. On a random basis each of the third grade classes was assigned to receive one of the three amounts of informal teacher-pupil contacts. In Group A no informal

teacher-initiated contacts were made with the students, in Group B half of the students during any one art lesson took part in informal teacher-pupil contacts, and in Group C an attempt was made to engage each student, during every lesson, in an informal teacher-pupil contact. A pre-test was conducted on the Friday prior to the beginning of the six weeks of treatment. Following this, two lessons on line, two on texture and two on center of interest were presented. The teaching was done by the researcher. Informal teacher-pupil interaction was provided during the work sessions when the students were working on their own. During these contacts students were provided with teacher statements and questions whereby the teacher exerted indirect teacher influence. (See Definition of Terms Section, Ch. I). Following the six weeks of treatment, students were given a post-test. During the pre- and post-testing sessions, children were asked to provide visual answers, in the form of paintings or drawings, to two questions that were asked. Three criteria directly related to the objectives of the six lessons were used in evaluating the pre-test and post-test pictures. Four graduate students, majoring in art education, judged the art products. A computer was used to carry out all necessary analysis of variance.

Results from the study indicated that informal teacher-pupil contacts promote the learning of line, texture, and center of interest concepts at the third grade level. Of the three situations, Group B, where a moderate number of contacts were presented produced greatest gains in score. A maximum number of contacts increased the students

post-test art work scores whereas the group where a minimum amount of teacher-pupil interaction was present achieved lower post-test art work scores. In all three experimental situations girls achieved higher post-test art work scores than did the boys. The gain in score for the girls was identical in both treatment Groups B, where a moderate number of informal teacher-pupil contacts were present and Group C, where a maximum number of contacts were present. The boys in treatment Group B, where a moderate number of informal teacher-pupil contacts were present, achieved greatest gains in post-test art work scores. In treatment Group A, where a minimum number of contacts were present, the boys achieved lower post-test art work scores. Low I.Q. children benefit most from a maximum number of contacts whereas the average and above average I.Q. children achieved greatest gains in scores when half of the students took part in informal teacher-pupil contacts during the total sequence of six art lessons. In treatment Group A, where there was a minimum number of informal teacher-pupil contacts, the child with an average I.Q. did not obtain lower post-test art work scores as was the case with the high and low I.Q. children. Regardless of the treatment, students achieved greatest gain in score on the criterion of texture and least on center of interest.

Limitations of the Study

The biggest limitation in this study was the time factor. Due to the experiment lasting only six weeks, it was not possible to predict how long differences in mean gains due to the experimental treatments

would exist. The six weeks of treatment may not have been a true indication of long-range effects of varying amounts of informal teacher-pupil contacts. What are the long-range effects of the treatments and what would the effects be if the treatments were sustained for several months or even a year? If the students in Group B, where a moderate number of informal teacher-pupil contacts were present, viewed these contacts as a reward then the supremacy of this group would probably decline over a longer period of time. Two lessons per art concept probably were not sufficient to enable the students to fully understand and incorporate into their visual images what was presented. It is also possible that more learning took place than was indicated by the post-test drawings and paintings. To change the child's production of visual images after only six weeks exposure to three important art concepts may be a difficult thing to do.

Another limitation was the fact that several children did not complete their pre- and/or post-test pictures in the prescribed length of time. All students had to hand in their pictures after the 55 minute testing session was completed. Had all children completed their pictures it is possible that different results may have been obtained.

As a result of the experimental design, an important question was left unanswered. What effect did the experimental treatments have upon the students attitude toward art? This and other related questions remain unanswered. It is possible that, in an experiment of this nature, the researcher could go to the subjects and in some manner obtain their

views and reactions to the learning situation. The participants as learners could provide some relevant and possibly very important information concerning the effects of the experimental treatment. Post-test scores may only be indicating in part what really happened as a result of the treatments.

Implications for Art Education

This study points out some important implications for the teaching of art at the third grade level. Foremost, the study indicated that an absence in formal teacher-pupil contacts produced a drop in student art work scores. Through informal teacher-pupil contacts it becomes possible for the teacher to meet some of the learners' individual needs. Through these contacts additional teaching, praise and/or motivation can be provided.

An equally important implication is that just providing informal teacher-pupil contacts is not enough. There remains a need for the teacher to mold, modify, and then provide contacts that are tailored to each student's needs. In the study it was pointed out that a large number of contacts does not necessarily promote the greatest amount of learning. The fact that a moderate amount of contacts was superior to the situation where all students receive some informal teacher help during every lesson, is an indication that it is not necessary to meet with all students on an informal basis in the course of each and every lesson. It seems that quality of informal teacher-pupil contacts is more important than quantity. There is a need to become more concerned with determining what type of contacts and when these are most effective. It would seem that to be of

greatest benefit contacts should be provided when students need them. Time of student need can be determined by the student himself and also by the teacher. By being especially sensitive and alert to the student as he tends to solve his visual problems, art teachers can determine when additional motivation, praise, and/or help are needed. Any student activities which involve his looking at and talking about his own work or that of someone else's, can be an indication to the teacher of the student's understanding of a specific concept. Teachers need to rely more upon student talk to determine what additional information, help, praise, and/or motivation is needed by the students. Since informal contacts are of great importance, art educators need to set up learning situations whereby there will be time for them to go to the individual students and provide individual attention.

Another important implication arising from the findings in this study was that girls benefited more from contacts than did the boys. Art educators will need to search for and determine what type of contacts will promote a greater amount of learning on the part of the boys.

Results from the study indicated that irrespective of I.Q. all students benefited from informal teacher-pupil contacts (See Table III). Because of this it is important for the teacher to know what students are taking part in these contacts and to ensure that no one group of students is ignored or excluded from the interaction. In some situations the average I.Q. student does not take part in many informal teacher-pupil contacts. Usually in the formal part of a learning epi-

sode the teaching is geared to the average student. Because of this, during the informal part of the lesson the teacher spends most of her time helping the low I.Q. students and in providing the high I.Q. students with enriched and extra work. In this study it was evident that the average I.Q. students benefited from informal teacher-pupil contacts as much as the low and high I.Q. students.

Results from the study indicate that through informal teacher-pupil contacts it is possible to provide information at a level whereby the low I.Q. students can learn the art concepts of line, texture and center of interest. It is not the number of contacts but the type and amount of information, praise and motivation, that is presented during these contacts that can make education meaningful for all of the students in the learning situation. As indicated by the post-test art work scores, third grade children can be taught the art concepts of line, texture and center of interest (See Table III). The third grade child's increasing concern for realism must be catered to by the teacher. This can be done by providing the student with information about the art elements.

In presenting information and art concepts, care must be taken to ensure that mastery of presented material is achieved by most of the students. From the study it became apparent that after two lessons some concepts such as texture can be grasped by all students, but some concepts such as center of interest are more difficult and will require more than two or three lessons. By providing more time and additional learning experiences where the students have the opportunity to look and talk about art works in relation to the presented art concepts, it

may be possible for most third grade students to understand and incorporate into their visual images concepts such as center of interest.

In summary, it becomes evident that informal teacher-pupil contacts help students learn new concepts but to be of maximum benefit the quantity and quality of these contacts must be geared to the specific needs and nature of the students.

Recommendations for Further Research

Some important questions arose and remain unanswered as a result of this study. Further research will need to be carried out in the area of informal teacher-pupil interaction to provide answers to such questions as: a) In the normal classroom situation, what group of students take part in the greatest number of informal teacher-pupil contacts? Why? b) Is the sex of the teacher an important variable in the teacher-pupil contacts? c) Is the pupil-initiated or the teacher-initiated contact the most effective? d) What type of teacher comments and questions produce greatest amount of learning? f) What student overt sign or signs indicate that there is a need to provide the student with additional help, motivation and/or praise?

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A P P E N D I X

LESSON ONE

Topic

Introduction to line.

The Objectives

Become aware of line as being an important element in visual communication.

Specific Objectives for this Lesson

The purposes of this lesson are to present learning experiences which will enable the student to (a) learn the nature of line; (b) become aware of the wide variety of objects that can be used to make lines; (c) become aware of ways in which lines can differ; and (d) realize that lines can be used to express moods and emotions.

Materials

One week before this lesson, ask students to bring any object which may be used to make a line with.

A large amount of Manila paper is necessary.

Procedure

Have students make several lines and then ask them to define a line. Using the students' definitions, arrive at an explanation of line.

After ensuring that all students have several sheets of paper, encourage them to see how many different objects they can use to make lines on paper. Students should be willing to share objects that they brought from home in order that all may experience the making of lines.

with a large variety of objects. When the students have experimented with the making of lines, have them look at the lines and see in what way one line is different from the next.

When the students have had time to look at their lines ask for class members to state ways in which lines can differ. List these on the blackboard. Have the students look at their lines to see if the lines they have produced vary in as many ways as were listed.

Ask the students to give names to their lines. Suggest some ways in which lines can be named: for example, mood they express. Then have the students use their hands to draw lines in the air which will express various emotions and moods. Encourage large movements of the various body parts. After distributing large sheets of paper and chalk, ask the students to close their eyes and to express an emotion using a line on the paper; for example (a) show anger, (b) sneaking up on someone, or (c) how will you feel on the last day of school? After the students have finished, have them open their eyes and add to their lines. Hopefully after this exercise, the students will realize that lines can be used on the subjective as well as the objective level.

Discuss a "storm in the forest". Have the students think of what it is like in the forest during a storm. Ask individual students to tell the class what kind of lines they think will help show a picture of a storm forest. After many suggestions and ideas have been contributed by the class members have the students compose a picture showing a "stormy forest". Remind them to let different lines help them tell their story.

Student Preparation for the Next Art Class

Ask the students to bring magazines which have a variety of pictures in them to the next art class. Also ask them to find additional objects that can be used to make lines with.

LESSON TWO

Topic

Introduction to line.

The Objective

Become aware of variation in line and its use in compositions.

Specific Objectives for this Lesson

The purposes of this lesson are to present learning experiences which will (a) further develop the students' awareness of variety in lines; (b) enable the students to realize that line used to draw the outlines of objects can also show whether the objects are hard or soft; (c) give the students an opportunity to draw objects with the intent of showing whether these objects are hard or soft.

Materials

Materials necessary include a variety of tools that can be used to make lines, pictorial magazines, scissors, and plenty of paper.

Procedure

Following a five minute review of the previous art lesson ask the students to cut out two or more pictures from the magazines. Let the students spend several minutes looking at the pictures to see how lines were used. After all of the students have had an opportunity to study their pictures ask several to state why and when lines were used. When one of the students states that lines were used to show how objects look or that line was used to draw the shapes of objects, expand this answer

by asking students whether all objects feel the same. What kind of a line could we use to draw a cloud, a rock, or a horse? How will these lines differ?

Have the students practice making lines that are soft in appearance and lines that are hard. After five minutes of experimentation, ask the students to draw three objects that would need a hard line.

Following the introduction to hard and soft lines ask the students to look at the magazine pictures to see if lines have been used to show something else besides the outlines of objects. Try to get some of the class members to find pictures that have motion and possibly emotion expressed through the use of line. If some students are able to locate a picture where lines show emotion or movement, have these students come to the front of the class and explain where in that picture line was used to show emotions or movement.

Use the remaining twenty minutes to give the students an opportunity to compose a picture where they could use line to help tell their story. Briefly discuss the topic of "getting lost". Following this ask the students to compose a picture which will tell us where they have been lost or where they would not like to get lost.

Student Preparation for the Next Art Class

For the following art class ask the students to bring objects that are rough, smooth, or flat.

LESSON THREE

Topic

Introduction to texture.

The Objective

Become aware of "texture" as being the quality that is present in all objects that we can touch and feel.

Specific Objectives of this Lesson

The purposes of this lesson are to present learning experiences which will enable the student to (a) become more aware of texture; (b) realize that texture is present in all objects that we can feel; (c) realize that we can have texture that is naturally found in objects, texture that is man-made, and texture that is suggestive; and (d) learn how to make "pretend texture" with the use of familiar equipment.

Materials

All students should have with them a collection of objects exhibiting various types of texture. Also it is necessary to have a good supply of pictorial magazines and a large supply of pencils and paper.

Procedure

Briefly review what was presented in the last lesson. Ask the students to display the objects they brought on their desks and then to feel each object. Discuss the fact that we can learn a great deal about objects just by feeling them. Have the students close their eyes

and pick an object up from a neighbouring desk with the intention of guessing its identity by feeling it.

Introduce the students to the word "texture" and ask for words that we can use in talking about how objects feel. Examples of words chosen might be: rough, smooth, bumpy.

Discuss the fact that objects can have texture that is man-made or texture that is natural to the object. Have the students pick out from their collection all objects that have man-made texture. Closely examine these objects. Following this discuss the fact that pictures show us how the real objects would feel if we could touch them. We can call this "pretend texture". Have the students go through magazines, tearing or cutting out portions of pictures that illustrate texture. After several minutes of this ask the students to arrange the texture tear-outs from the roughest to the smoothest.

Discuss with the students the fact that we can make "pretend texture" with pencils, crayons, and paint. Have the students walk around the room taking rubbings of various objects to illustrate different types of texture. After about ten minutes of this ask the students to sit down and closely examine their rubbings. Which objects were rough, which were flat or smooth? Using their rubbings as reference material, ask students to make some "pretend texture" with their crayons and pencils.

When all have had an opportunity to make some texture on paper, ask students to suggest rules that will tell us how to make the various types of "pretend texture". What kind of line do we use in making some-

thing look rough, smooth, or mat?

Student Preparation for the Next Art Class

Ask the students to practice making different kinds of texture at home.

LESSON FOUR

Topic

Introduction to texture.

The Objective

Become aware of texture as being an important aspect of visual communication.

Specific Objectives for this Lesson

The purposes of this lesson are to present learning experiences which will enable the student to (a) become familiar with some of the ways in which real or implied texture can be produced; (b) critically examine one's own work or someone else's with the intent of talking about the texture that is or could be present in the composition.

Materials

A variety of materials normally used in picture making are necessary. It is also imperative that about twenty student works are available for use in class.

Procedure

Briefly review what was presented in the last lesson. Show the first part of the film Experiencing Texture with the intent that students pay close attention to how familiar material can be used to make texture. Following the showing of the film, discuss some of the different techniques shown in making texture.

Distribute one student picture to every two students. Ask the

students to study, as a pair, the picture they receive and to examine the composition to see where the artist has used texture and also where he could have used more texture. Also ask the students to be prepared to go up before the class to talk about the picture explaining where texture was used, what kind of texture, and what could be done to improve the picture.

After the students have had several minutes to examine the pictures ask for volunteers to go up before the class. Encourage the students to talk about the pictures and also encourage the class members to contribute comments about the compositions. Have about three or four pairs of students come before the class and discuss their pictures.

Following this emphasize the fact that they can all make better pictures by using real or implied texture. Discuss the topic "What I enjoy doing after school". Then ask the students to make a picture which will show us what he or she enjoys doing. Remind them to use texture in their pictures.

Student Preparation for the next Art Class

Ask the students to practice making texture at home.

LESSON FIVE

Topic

Introduction to center of interest.

The Objective

Become aware of the importance of having a center of interest in a composition.

Specific Objectives for this Lesson

The purposes of this lesson are to present learning experiences which will enable the student to (a) realize that like a story or a movie, a picture has one part that is more exciting or important than all of the other parts; (b) achieve a center of interest by arranging several pieces of colored paper; (c) realize how a center of interest can be achieved.

Materials

Each student will require three sheets of paper, some glue, scissors, crayons, and a small amount of colored paper.

Procedure

Briefly review the previous art lesson. Discuss with the class a story and a movie with the intent of having the students realize that most stories and movies have parts that are more important and exciting than the others. Point out that to be a good vehicle of communication a picture must also have a part or parts that are more important than the rest. Introduce the students to the term center of interest. Ex-

plain to them that they will learn how to achieve a center of interest in their pictures.

Distribute pieces of colored paper to all of the students and then ask them to choose about four or five pieces and to attempt to arrange them in such a manner that one piece will be more important than all the rest. Having arranged and glued the shapes on a piece of paper, ask the students to walk around the room and ask members of the class which shape is the center of interest. If they so wish students may use crayons and paint to touch up the shapes.

After all students have arranged the first series of mixed shapes ask them to choose about four or five shapes that are the same and to arrange them so that one will be the center of interest. To keep the faster working students occupied while the slower ones are working on the second problem, ask them to choose any shapes they desire and to arrange them so that a center of interest is present.

After completing three shape compositions have the students try to write rules on the back of their compositions stating how the center of interest was achieved. Students may walk around and ask other members of the class what part of the composition is the center of interest, and to state reasons for their choice.

In the remaining fifteen minutes ask the students what they would want to do most on their holidays. Ask them to do a picture showing the rest of the class what they want to do.

Student Preparation for the Next Art Class

Ask each student to have completed at least three shape composi-

tions before the next art class. Also ask them to complete their pictures showing what they like to do on their holidays. All of this work is to be brought to the next art class.

LESSON SIX

Topic

Introduction to center of interest.

The Objective

Become aware of the importance of having a center of interest in a composition.

Specific Objectives of this Lesson

The purposes of this lesson are to present learning experiences which will enable the student to (a) come up with five or six different ways of achieving a center of interest, and (b) critically look at their own or at pictures of their peers and evaluate them in terms of a center of interest.

Materials

It is necessary for the students to have with them the shape compositions plus their composition showing what they want to do on their holidays.

Procedure

Briefly review the previous art lesson and then ask individual students to come up in front of the class with a shape composition and explain how a center of interest was achieved. Have about five or six different students come up before the class. Following this, ask the class to state rules that could be used to achieve a center of interest. List these rules on the blackboard.

Distribute one student composition to every two pupils and ask the class to discuss with their partner the composition in terms of a center of interest. If there is a center of interest, how was it achieved? What could have been done to improve the picture in terms of a center of interest?

When all students have had an opportunity to discuss the picture with their partner ask three or four different pairs of students to come up before the class and talk about the composition. When asking students to come up before the class try to ensure that the same students do not get to go up more than once. Encourage the rest of the class to comment on the compositions. Try to get the class to realize that a center of interest can and should be present in their compositions.

Discuss the topic of "What I Would Like to be When I Grow Up". Ask them to produce a picture showing the rest of the class what it is they wish to be. Remind them to let variety of line, texture, and a center of interest help make their picture more effective.

SAMPLE SUMMARY SHEET

SUMMARY OF PRE- AND POST-TEST SCORES

Name of Student	Treatment Group	Pre-Test Total Scores On:				Post-Test Total Scores on:			
		Three criteria	Criterion of line	Criterion of texture	Criterion center of interest	Three criteria	Criterion of line	Criterion of texture	Criterion center of interest
LEE, Jim	C	30	10	12	8	36	12	14	10
MAY, Joe	A	28	9	11	8	27	9	11	7

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